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Bone-anchored prosthesis: Evidence that “gains” overcome the “pain”

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DISCLOSURE

Any relevant financial disclosures: None

ARTICLE TO COMMENT

Branemark, R., O. Berlin, K. Hagberg, P. Bergh, B. Gunterberg, and B. Rydevik, A novel osseointegrated percutaneous prosthetic system for the treatment of patients with transfemoral amputation: A prospective study of 51 patients. *Bone Joint J*, 2014. 96(1): p. 106-113.

PERSPECTIVE

Most of socket related discomforts leading to a significant decrease in quality of life of individuals with limb amputation can be overcome by surgical techniques enabling bone-anchored prostheses. To date, the OPRA two-stage procedure (i.e., S1, S2) is the most acknowledged treatment. However, surgical implantations of osseointegrated fixations are developing at an unprecedented pace worldwide.^[1-18] Clearly, this option is becoming accessible to a wide range of individuals with limb amputations.

The team led by Dr Rickard Branemark has published a number of landmark articles each focusing on a particular aspect (e.g., health related quality of life, functional outcomes, bone remodelling, infection rate).^[1-3, 19-32] However, evidences presented in this prospective study are remarkable. Functional outcome, health-related quality of life and complications were considered concurrently for a large population (i.e., 51 participants) over an extended period of time (i.e., up to year follow up). Therefore, the “gain” and “pain” of the whole

procedure were truly contrasted for the first time.

The results confirmed that OPRA surgical and rehabilitation procedures improved significantly prosthetic use, mobility, global situation and fewer problems. Furthermore, the authors reported 47 episodes of infections for 63% (32) participants between post-op S1 and two years follow up. A total of 87% (41) were superficial infections recorded for 28 participants between post-op S2 and two years follow up, while 13% (6) were deep infections occurring for 4 participants during post-op S1 and S2. As expected, post-op S2 phase was the most prone to both infections. More importantly, the vast majority of infections were effectively treated with oral antibiotics.

Clearly, this study provided definitive evidence that the benefits of OPRA fixation overcome complications. This article is also establishing reporting standards and benchmark data for future studies focusing on bone-anchored prostheses.

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